

RECEIVED
CENTRAL FAX CENTER

AUG 21 2006

IN THE CLAIMS:

Claim 1 (Currently Amended) A bulk silicon etching method comprising the steps of:

- (a) providing a silicon wafer;
- (b) diffusing the wafer with dopant, whereby the diffusion creates a PN-junction throughout the surface of the wafer;
- (c) providing a mask;
- (d) positioning the mask in overlying relation to the surface of the wafer;
- (e) patterning a layer of oxide on the surface of the wafer;
- (f) etching the wafer to create recessed areas coincident with the patterned oxide, whereby the etching step is sufficient to etch away the surface PN-junction created by the diffusion step, thereby creating the recessed areas characterized by the absence of surface PN-junction;
- (g) hydrofluoric acid etching the wafer to form porous silicon thereon, whereby the porous silicon is formed coincident with the surface wafer area characterized by the absence of surface PN-junction;
- (h) subjecting the wafer surface to wet etching resulting in dissolution of the porous silicon.

Claim 2 (Previously Cancelled)

Claim 3 (Previously Cancelled)

Claim 4 (Original) The method of claim 1, wherein the silicon wafer is an N-type silicon wafer.

Claim 5 (Original) The method of claim 1, wherein the dopant is a P-type dopant.

Claim 6 (Original) The method of claim 1, wherein the silicon wafer is a P-type silicon wafer.

Claim 7 (Original) The method of claim 1, wherein the dopant is an N-type dopant.

Claim 8 (Currently Amended) The method of claim 1, wherein the step (e) of patterning a layer of oxide on the surface of the wafer further comprises sputtering the oxide layer.

Claim 9 (Currently Amended) The method of claim 1, wherein the step (f) of etching the wafer further comprises etching the wafer with potassium hydroxide.

Claim 10 (Currently Amended) The method of claim 7 9, further comprising etching the wafer with potassium hydroxide for about ten minutes.

Claim 11 (Currently Amended) The method of claim 1, wherein the step (h) of subjecting the wafer surface to wet etching, further comprises subjecting the wafer surface to potassium hydroxide.

Claim 12 (Currently Amended) The method of claim 1, wherein the step (h) of subjecting the wafer surface to wet etching, further comprises subjecting the wafer surface to tetramethyl ammonium hydroxide.

Claim 13 (Previously Amended) The method of claim 11, wherein the wafer surface is subjected to potassium hydroxide for about thirty seconds.

Claim 14 (Previously Amended) The method of claim 12, wherein the wafer surface is subjected to tetramethyl ammonium hydroxide for about thirty seconds.

Claim 15 (New) The method of claim 1, wherein step (g) of hydrofluoric acid etching the wafer to form porous silicon thereon, hydrofluoric acid etching utilizing a mixture of hydrofluoric acid and ethanol.